


5-30-2010

Could 2010 Turn out Like 1983?

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Recommended Citation

Taylor, S. Elwynn, "Could 2010 Turn out Like 1983?" (2010). *Integrated Crop Management News*. 400.
<http://lib.dr.iastate.edu/cropnews/400>

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Could 2010 Turn out Like 1983?

Abstract

The two years 2010 and 1983 have a lot in common so far, at least at Ames, Iowa. I haven't analyzed other locations, but Ames was not typical of the region either year. This year the growing degree day (GDD) accumulation has climbed from normal in mid-May to about 100 GDD above normal at the last week of June. In 1983 the GDD accumulation was about 200 GDD behind usual by mid-June then it rapidly increased to slightly above normal by mid-August.

Keywords

Agronomy

Disciplines

Agricultural Science | Agriculture | Agronomy and Crop Sciences | Climate | Meteorology

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The 1983 heat in July was accompanied by greatly diminished rain after the first week of July until the last week of August. The temperature stress, hours of temperature exceeding 86 F, reached 260 by the last week of August. Normal temperature stress is 65 for the period.

Are the years 1983 and 2010 alike to date? There are three considerations. First, neither year had significant periods of abnormally high temperature in the spring. Second, both years had above normal precipitation reaching to more than 16 inches between January and the end of June (normal is less than 14 inches) and both years had above usual moisture during the previous fall season. Third, a winter El Nino condition rapidly dissipated during May and June.

The May through June 2010 switch from El Nino to La Nina, as assessed by 90-day Southern Oscillation Index values, does present an historical probability of an increased incidence of stressfully hot days during the 2010 season. The statistical chance that it could result in a U.S. corn yield below the trend (below 160 BPA) is near 70 percent as opposed to a 50/50 chance on an average year.

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This article was published originally on 6/30/2010. The information contained within the article may or may not be up to date depending on when you are accessing the information.

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